

REMARKS

Initially, Applicants would like to express their appreciation to Examiner Corsaro for the courtesies extended to Applicants' attorney during a telephone interview on January 30, 2004. Although agreement was not reached on specific claim amendments, Applicants have endeavored to amend the claims consistent with the points discussed with the Examiner.

After the foregoing amendment, claims 1, 2, 4, 6-17, 19-25, 28-38, and 40-43 are pending in the application.

Applicants respectfully request additional consideration and review of the claims in view of the foregoing amendment and the following remarks.

Rejections Under 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-8, 10-15, 17-33, and 38-43 under 35 U.S.C. §103(a) as being unpatentable over Kanai (U.S. 5,386,589) in view of various other references. Applicants have canceled claims 3, 5, 18, 26-27, and 39. Applicants regard them as unnecessary in view of amendments made to other claims in the application.

Applicants respectfully submit that even if it were obvious to combine Kanai and the other references in the manner suggested in the Office Action, the resulting combinations would not embody Applicants' inventive teachings nor anticipate Applicants' claims.

The purpose of Applicants' invention is to provide a method of power control for the reverse link outer loop in wireless communications networks. An important aspect of Applicants' invention is to perform power control as a function of a second order statistic of a signal-to-noise ratio of a received signal. This important aspect of Applicants' invention is pointed out, for example, in independent claim 1 that calls for determining a signature of a communications channel in which "the signature of the communications channel is a second order statistic of a signal-to-noise ratio of a signal received from the communications channel, ... performing power control ...". Similar language appears in

independent claims 11, 17, 24, and 38. See, for example, page 3, lines 7-13 in Applicants' specification where this aspect of the invention is discussed.

Claim Rejections under Kanai and Minde

Claims 1-6, 11-13, 17-20, 23-27, 29, 31, and 38-43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kanai (U.S. 5,386,589) in view of Minde et al. (U.S. 6,201,960). Kanai, like Applicants, is generally concerned with power control in a wireless network. In Kanai, transmission power is controlled by measuring the average bit error rate and comparing it to predetermined thresholds. Transmission power is increased or decreased by a predetermined amount based on how the average bit error rate compares to the predetermined thresholds.

Minde provides a method and system of measuring signal quality in mobile telecommunications networks. Minde teaches the processing of radio link parameters such as bit error rate, frame error rate, receive level, etc., via a temporal processing stage and a correlation processing stage to determine speech quality. Minde discloses the use of statistical methods "which may include determining the maximum value, minimum value, mean value, standard deviation, skewness, kurtosis, etc.", to analyze the radio link parameters in the temporal processing stage, as pointed out in column 4, lines 37-40. Minde then combines the original radio link parameters with the new "analyzed" parameters in the correlation processing stage to produce parameters more correlated to speech quality.

Next, Minde discloses an objective speech quality processing method and a method of objective speech quality measurement. Both occur separate from and after the temporal processing and correlation processing stages. Objective measurement techniques perform quality measurements on the signal by determining the waveform, spectral, and spectral envelop distortions, as pointed out in column 5, lines 40-43. Minde discloses that the signal-to-noise ratio can be adapted for such measurements.

In the Office Action, the Examiner contends that it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the power control from Kanai with the signature of a communication channel in Minde. Applicants assert, however, that even if the cited references could be combined, the resulting combination would not embody Applicants' inventive teachings nor anticipate Applicants' claims.

First, as noted by the Examiner in the Office Action, Kanai does not specifically disclose a signature of a communications channel. This distinction alone is sufficient to distinguish Applicants' invention from Kanai.

Second, as noted above, Minde discloses the use of several statistical methods in the temporal processing stage, which is part of the radio link processing. The Examiner contends that such statistics represent a signature of a communication channel. Also, Minde discloses that a signal-to-noise ratio could be adapted as an objective measurement technique, which occurs in a separate stage after temporal processing. Therefore, the statistical methods used in the temporal processing stage disclosed by Minde are not involved or included in the use of a signal-to-noise ratio as an objective measurement technique. Even assuming that the signal exiting the temporal processing stage is a "signature of the communications channel", the fact remains that contrary to Applicants' claim 1, Minde does not teach that "the signature of the communications channel is a second order statistic of a signal-to-noise ratio of a signal received from the communications channel". This distinction alone is sufficient to distinguish Applicants' invention from Minde.

Combining Kanai with Minde would not embody Applicants' claimed invention. As noted above, Applicants' claim 1 calls for determining a signature of a communications channel in which "the signature of the communications channel is a second order statistic of a signal-to-noise ratio of a signal received from the communications channel". This limitation in Applicants' claim 1 means that 1) a signal is received, 2) a signal-to-noise ratio of the received signal is determined, 3) a second order statistic of the signal-to-noise ratio is determined, and 4) the result is the signature of the communications channel. Minde does not

disclose this limitation. Instead, Minde only determines the statistics of the radio link parameters during the temporal processing stage, and later discloses a method of objective speech quality measurement in a separate stage that can be adapted to use a signal-to-noise ratio. Consequently, neither Kanai nor Minde teach, either when taken individually or in combination, that "the signature of the communications channel is a second order statistic of a signal-to-noise ratio of a signal received from the communications channel". As stated previously, similar language appears in Applicants' independent claims 11, 17, 24, and 38. This distinction alone is sufficient to distinguish Applicants' claims 1-2, 4, 6, 11-13, 17, 19-20, 23-25, 29, 31, and 38, 40-43 from Kanai and Minde.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claims 1-2, 4, 6, 11-13, 17, 19-20, 23-25, 29, 31, and 38, 40-43.

Claim Rejections under Kanai, Minde, and Wang

Claims 7-8, 10, 14-15, 28, 32-33, and 41-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kanai in view of Minde, and further in view of Wang et al. (U.S. 6,084,904). The Kanai and Minde combination does not teach or suggest the limitations recited in Applicants' independent claims 1, 11, 17, 24, and 38 for the above-mentioned reasons. Wang does not cure the deficiencies noted above for Kanai and Minde. Since claims 7-8 and 10 depend from claim 1, claims 14-15 depend from claim 11, claims 28 and 32-33 depend from claim 24, and claims 41-42 depend from claim 38, these dependent claims are therefore also believed to be allowable for the same reasons set forth above for the respective independent claims. Therefore, the combination of Kanai, Minde and Wang still does not embody Applicants' claims 7-8, 10, 14-15, 28, 32-33, and 41-42.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claims 7-8, 10, 14-15, 28, 32-33, and 41-42.

Furthermore, Applicants respectfully object to the Examiner taking official notice as per claim 28. Applicants' method of power control for the reverse link outer loop in wireless communications networks is not common knowledge nor is it practiced in the art. Applicants respectfully submit that a reference document should be cited that shows prior art as the basis for the rejection of Applicants' claim.

Claim Rejections under Kanai, Minde, and Dohi

Claims 21, 22, and 30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kanai in view of Minde, and further in view of Dohi et al. (U.S. 6,341,224). The Kanai and Minde combination does not teach or suggest the limitations recited in Applicants' independent claims 1, 11, 17, 24, and 38 for the above-mentioned reasons. Dohi does not cure the deficiencies noted above for Kanai and Minde. Since claims 21-22 depend from claim 17 and claim 30 depends from claim 24, these dependent claims are therefore also believed to be allowable for the same reasons set forth above for the respective independent claims. Therefore, the combination of Kanai, Minde and Dohi still does not embody Applicants' claims 21, 22, and 30.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claims 21, 22, and 30.

Allowed Claims

Applicants appreciate the Examiner's allowance of claims 34-37 and indication that claims 9 and 16 would be allowable if rewritten in independent form including all limitations of the respective base and intervening claims.

Instead of rewriting claims 9 and 16 in independent form, Applicants have opted instead to amend respective base claims 1 and 11. Claims 1 and 11 are now believed to include the allowable subject matter as previously discussed. In view of the amendments to the base claims and the accompanying remarks set forth herein, Applicants believe that claims 9 and 16 are allowable in their present form by virtue of their dependency from the amended base claims. As such, for

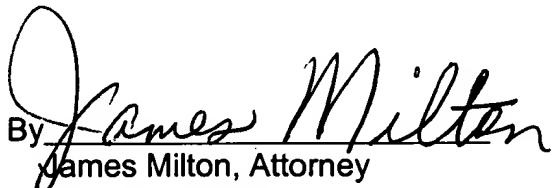
reasons related to prosecution efficiency, Applicants have not amended these dependent claims at the present time, but instead would prefer to reserve the right to do so in the future as appropriate.

Conclusion

In view of the foregoing amendments and remarks, Applicants submit that claims 1, 2, 4, 6-17, 19-25, 28-38, and 40-43 are in condition for allowance, and reconsideration is therefore respectfully requested. If there are any outstanding issues that the Examiner feels may be resolved by way of a telephone conference, the Examiner is invited to contact the undersigned to resolve the issues.

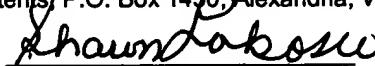
Respectfully submitted,

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Date: Feb. 19, 2004

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 Date 2/19/04
Sharon L. Lobosco